UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 January 2009</u>.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-7, 9-16, 18-25</u> is/are rejected.
7)☒ Claim(s) <u>8 and 17</u> is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 1/6/09 has been entered.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-25 are rejected under 35 U.S.C. 101 as not falling within one of the four

statutory categories of invention. The Federal Circuit[1], relying upon Supreme Court precedent[2],

has indicated that a statutory "process" under 35 U.S.C. 101 must (1) be tied to a particular

machine or apparatus, or (2) transform a particular article to a different state or thing. This is

referred to as the "machine or transformation test", whereby the recitation of a particular

machine or transformation of an article must impose meaningful limits on the claim's scope to

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[1] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

[2] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at 590"). While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform an article nor are positively tied to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. That is, the method includes steps of determining, defining, separating, laying out, filling, etc. is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally, or without a machine. The cited claims do not positively recite any structure within the body of the claim which ties the claim to a statutory category. Furthermore, the examiner suggests that the structure needs to tie in the basic inventive concept of the application to a statutory category. Structure that ties insignificant pre or post solution activity to a statutory category is not sufficient in overcoming the 101 issue. Additionally, the limitations do not claim data that represents a physical object or substance, the data is not present and therefore can not be modified by the process in a meaningful or significant manner, and no meaningful and significant external, non-data depiction of a physical object or substance can be produced.

[1] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

[2] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   **Claims 1, 10, 12, 22, 23, 24** are rejected under 35 U.S.C. 102(b) as being anticipated by Bae et al (US 2002/0126143 A1).

Regarding **claim 1**, Bae discloses a method for generating a highly condensed visual summary of video regions, comprising:

determining a dominant group in each of a plurality of video segments (see paragraph [0023], [0028]; there is provided an article-based news video content summary method that divides the news video content on the basis of a news article unit, extracts an anchor key frame, an episode key frame and a text key frame associated with the corresponding news article from the news video content divided on the basis of the news article unit, and indexes the anchor key frame, the episode key frame and the text key frame as summary elements for representing the news article);

determining a key frame in each of the video segments (see paragraph [0028]; extracting an anchor key frame, an episode key frame);

defining a germ associated with each dominant group in each of the video segments, wherein the video segment less the germ defines a support in each of the video segments (see fig. 5, paragraph [0059]; The synthetic text key frame is generated by summarizing important texts in a

video frame in each of the news articles to be inverted into an image; Examiner notes within

figure 5, it is noted that the physical text is considered as the germ);

separating the germ from the video segments (see fig. 5, paragraph [0059]; The synthetic text

key frame is generated by summarizing important texts in a video frame in each of the news

articles to be inverted into an image);

laying out the germs on a canvas (see fig. 5, paragraph [0059]; the synthetic text key frame is

generated by summarizing important texts); and filling in the space of the canvas between the

germs, wherein filling in the space of the canvas between the germs includes laying out one or

more portions of the supports, wherein the one or more portions of the supports are positioned in

the space such that at least one pixel value of the support relative to the closest germ is

positioned corresponding to the position of that pixel value relative to the germ from which it

was separated (see fig. 5, paragraph [0059]; The synthetic text key frame is generated by

summarizing important texts in a video frame in each of the news articles to be inverted into an

image; Examiner notes that as seen in fig. 5, the germ/region of interest is interpreted to be the

text only. Therefore, the corresponding background surrounding the text is considered to be

support, since the support is defined as the video segment less the germ. Following this logic,

therefore when the summarization of the text occurs, the support along with the germ is

separated from the video segments and placed within the synthetic key frame, whereby it fills up

the space of the canvas between the germs by having more than one text summarization present

in the synthetic key frame. Inherently, if the part of the support and the germ are transferred to

the synthetic key frame then naturally, at least one pixel value of the support relative to the

closes germ is positioned corresponding to the position of that pixel value relative to the germ),

wherein the canvas generated is a highly condensed visual summary of the plurality of video

segments (see fig. 5, paragraph [0059], synthetic key frame).

Regarding **claim 10**, Bae discloses a method for generating a highly condensed visual

summary of video regions, comprising:

determining a germ in each of a plurality of images, the germ containing a region of interest,

wherein the video region less the germ defines a support in each of the video regions (see fig. 5,

paragraph [0059]; The synthetic text key frame is generated by summarizing important texts in a

video frame in each of the news articles to be inverted into an image; Examiner notes within

figure 5, it is noted that the physical text is considered as the germ);

separating the germ from the video segments (see fig. 5, paragraph [0059]; The synthetic text

key frame is generated by summarizing important texts in a video frame in each of the news

articles to be inverted into an image);

laying out the germs on a canvas (see fig. 5, paragraph [0059]; the synthetic text key frame is

generated by summarizing important texts); and

filling in the space of the canvas between the germs by laying out one or more parts of the

support, wherein at least one pixel in the space corresponds to the support pixel from the closest

germ (see fig. 5, paragraph [0059]; The synthetic text key frame is generated by summarizing

important texts in a video frame in each of the news articles to be inverted into an image;

Examiner notes that as seen in fig. 5, the germ/region of interest is interpreted to be the text only.

Therefore, the corresponding background surrounding the text is considered to be support, since

the support is defined as the video segment less the germ. Following this logic, therefore when

the summarization of the text occurs, the support along with the germ is separated from the video

segments and placed within the synthetic key frame, whereby it fills up the space of the canvas

between the germs by having more than one text summarization present in the synthetic key

frame. Inherently, if part of the support and surrounding the germ are transferred to the synthetic

key frame then naturally, at least one pixel value of the support relative to the closest to the germ

is positioned corresponding to the position of that pixel value relative to the germ), wherein the

canvas generated is a highly condensed visual summary of video regions (see fig. 5, paragraph

[0059], synthetic key frame).

Regarding **claim 12**, Bae discloses receiving user input, the user input associated with a

part of an image (see paragraphs [0053], [0055]; user's request for playing the news article).

Regarding **claim 22**, Bae discloses a method for generating a highly condensed visual

summary of video regions, comprising:

determining a germ in each of a plurality of images, the germ containing a region of interest (see

fig. 5, paragraph [0059]; The synthetic text key frame is generated by summarizing important

texts in a video frame in each of the news articles to be inverted into an image; Examiner notes

within figure 5, it is noted that the physical text is considered as the germ);

defining a support in each of the video segments, wherein the support is the video segment less

the germ (see fig. 5, paragraph [0059]; summarizing important texts in a video frame in each of

the news articles. Examiner notes that the germ is considered to be the text and the support is the

background surrounding the text);

separating the germ from the video segments (see fig. 5, paragraph [0059]; The synthetic text

key frame is generated by summarizing important texts in a video frame in each of the news

articles to be inverted into an image);

laying out the germs on a canvas (see fig. 5, paragraph [0059]; the synthetic text key frame is generated by summarizing important texts), wherein there is no more than one germ for every video segment; and filling in the space of the canvas between the germs (see fig. 5, paragraph [0059]; The synthetic text key frame is generated by summarizing important texts in a video frame in each of the news articles to be inverted into an image; Examiner notes that as seen in fig. 5, the germ/region of interest is interpreted to be the text only. Therefore, the corresponding background surrounding the text is considered to be support, since the support is defined as the video segment less the germ. Following this logic, therefore when the summarization of the text occurs, the support along with the germ is separated from the video segments and placed within the synthetic key frame, whereby it fills up the space of the canvas between the germs by having more than one text summarization present in the synthetic key frame that represents only one germ for every video segment/anchor frame/icon key frame. Inherently, if the part of the support and the germ are transferred to the synthetic key frame then naturally, at least one pixel value of the support relative to the closes germ is positioned corresponding to the position of that pixel value relative to the germ) to generate a highly condensed visual summary of the plurality of video segments (see fig. 5, paragraph [0059], synthetic key frame).

Regarding **claim 23**, Bae discloses a method for generating a highly condensed visual summary of video regions, comprising:

determining a germ in each of a plurality of images, the germ containing a region of interest (see fig. 5, paragraph [0059]; The synthetic text key frame is generated by summarizing important texts in a video frame in each of the news articles to be inverted into an image; Examiner notes within figure 5, it is noted that the physical text is considered as the germ);

defining a support in each of the video segments, wherein the support is the video segment less

the germ (see fig. 5, paragraph [0059]; summarizing important texts in a video frame in each of

the news articles. Examiner notes that the germ is considered to be the text and the support is the

background surrounding the text);

separating the germ from the video segments (see fig. 5, paragraph [0059]; The synthetic text

key frame is generated by summarizing important texts in a video frame in each of the news

articles to be inverted into an image);

laying out the germs on a canvas (see fig. 5, paragraph [0059]; the synthetic text key frame is

generated by summarizing important texts);

defining a space between the germs (see fig. 5, paragraph [0059], synthetic key frame; Examiner

notes that the space between the germs are defined by the synthetic key frame before the germs

are placed within the frame or the support corresponding to the germs defines the space between

the germs); and

filling in the space of the canvas between the germs, wherein filling in the space of the canvas

between the germs includes laying out one or more portions of the supports (see fig. 5, paragraph

[0059]; The synthetic text key frame is generated by summarizing important texts in a video

frame in each of the news articles to be inverted into an image; Examiner notes that as seen in

fig. 5, the germ/region of interest is interpreted to be the text only. Therefore, the corresponding

background surrounding the text is considered to be support, since the support is defined as the

video segment less the germ. Following this logic, therefore when the summarization of the text

occurs, the support along with the germ is separated from the video segments and placed within

the synthetic key frame, whereby it fills up the space of the canvas between the germs by having

more than one text summarization present in the synthetic key frame that represents only one

germ for every video segment/anchor frame/icon key frame. Inherently, if the part of the support

and the germ are transferred to the synthetic key frame then naturally, at least one pixel value of

the support relative to the closes germ is positioned corresponding to the position of that pixel

value relative to the germ), to generate a highly condensed visual summary of the plurality of

video segments (see fig. 5, paragraph [0059], synthetic key frame).

Regarding **claim 24**, Bae discloses a method for generating a highly condensed visual

summary of video regions, comprising:

determining a dominant group in each of a plurality of video segments (see paragraph [0023],

[0028]; there is provided an article-based news video content summary method that divides the

news video content on the basis of a news article unit, extracts an anchor key frame, an episode

key frame and a text key frame associated with the corresponding news article from the news

video content divided on the basis of the news article unit, and indexes the anchor key frame, the

episode key frame and the text key frame as summary elements for representing the news

article);

determining a key frame in each of the video segments see paragraph [0028]; extracting an

anchor key frame, an episode key frame);

defining a germ associated with each dominant group in each of the video segments, wherein the

germ is the x-y projection of the dominant group onto the keyframe (see fig. 5, paragraph [0059];

The synthetic text key frame is generated by summarizing important texts in a video frame in

each of the news articles to be inverted into an image; Examiner notes within figure 5, it is noted

that the physical text is considered as the germ);

separating the germ from the video segments (see fig. 5, paragraph [0059]; The synthetic text

key frame is generated by summarizing important texts in a video frame in each of the news

articles to be inverted into an image);;

laying out the germs on a canvas (see fig. 5, paragraph [0059]; the synthetic text key frame is

generated by summarizing important texts); and

filling in the space of the canvas between the germs (see fig. 5, paragraph [0059]; The synthetic

text key frame is generated by summarizing important texts in a video frame in each of the news

articles to be inverted into an image; Examiner notes that as seen in fig. 5, the germ/region of

interest is interpreted to be the text only. Therefore, the corresponding background surrounding

the text is considered to be support, since the support is defined as the video segment less the

germ. Following this logic, therefore when the summarization of the text occurs, the support

along with the germ is separated from the video segments and placed within the synthetic key

frame, whereby it fills up the space of the canvas between the germs by having more than one

text summarization present in the synthetic key frame. Inherently, if the part of the support and

the germ are transferred to the synthetic key frame then naturally, at least one pixel value of the

support relative to the closes germ is positioned corresponding to the position of that pixel value

relative to the germ), wherein the canvas generated is a highly condensed visual summary of the

plurality of video segments (see fig. 5, paragraph [0059], synthetic key frame).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   **Claims 2-6, 13-15, 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bae et al (US 2002/0126143 A1) in view of Uchihashi (ACM Multimedia: "Video Manga:

Generating Semantically Meaningful Video Summaries").

Regarding **claim 2**, Bae discloses all elements as mentioned above in claim 1. Bae does

not teach determining a group within each of the plurality of video segments having the largest

volume.

Uchihashi teaches determining a group within each of the plurality of video segments

having the largest 3-D volume (Uchihashi: section 4.2, length of the segment is scored).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Bae reference to determine a group having the largest volume as taught by

Uchihashi, in order to "calculate an importance score for each segment based on its rarity and

duration" since "a segment is deemed less important if it is short or very similar to other

segments" (Uchihashi: section 4.2).

Regarding **claims 3, 4, and 20**, Bae discloses all elements as mentioned above in claim 1.

Bae does not teach defining a two dimensional shape that encompasses the projection of the

dominant group onto the key frame; wherein the two dimensional shape is a rectangle; and using

an algorithm to determine a region of interest of an image.

Uchihashi teaches defining a two dimensional shape that encompasses the projection of the dominant group onto the key frame (Uchihashi: figure 2; section 4.4) and wherein the two dimensional shape is a rectangle (Uchihashi: figure 2; section 4.4).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae reference to define a two dimensional shape that is a rectangle as taught by Uchihashi, in order to "form a pictorial abstract of the video sequence" where a "sequence of frames …. fills space efficiently and represents the original video sequence well" (Uchihashi: section 4.4).

Uchihashi further teaches using an algorithm to determine a region of interest of an image (Uchihashi: figure 4.2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae with Uchihashi combination as mentioned above to determine a region of interest of an image as taught by Uchihashi, "to select appropriate keyframes for a compact pictorial summary" (Uchihashi: section 4.2).

Regarding **claims 5 and 6**, Bae with Uchihashi discloses all elements as mentioned above in claim 3. Bae with Uchihashi as mentioned in claim 3, does not teach determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row.

Uchihashi further teaches determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas (Uchihashi: section 4.3, 4.4)

and placing the germs in rows, wherein each row has a height according to the longest germ in the particular row (Uchihashi: figure 2).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae with Uchihashi combination to place the germs in a row as taught by Uchihashi, to "fill space efficiently and represent the original video sequence well" (Uchihashi: section 4.2).

Regarding **claim 13**, Bae discloses all elements as mentioned above in claim 10. Bae does not disclose using an algorithm to determine the regions of interest of an image based on one or more methods selected from the group consisting of a general image analysis algorithm, a face-detection algorithm, and object detection algorithms and user input.

Uchihashi teaches using an algorithm to determine the regions of interest of an image based on one or more methods selected from the group consisting of a face-detection algorithm (see section 4.2, section 6, segment is scored and weighted, detecting human close-ups and other image types to further improve the summaries), and object detection algorithms (see section 4.2, section 6, segment is scored and weighted, detecting human close-ups and other image types to further improve the summaries) and user input.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae reference to determine the regions of interest with a face-detection algorithm or a object detection algorithms as taught by Uchihashi, "to select appropriate keyframes for a compact pictorial summary" (Uchihashi: section 4.2).

Regarding **claims 14 and 15**, Bae reference discloses all elements as mentioned above in claim 10. Bae reference as mentioned in claim 10, does not teach determining a scale factor to

be applied to every germ such that the germs are scaled to the maximum size that fits into the

canvas and placing the germs in rows, wherein each row has a height according to the longest

germ in the particular row.

Uchihashi further teaches determining a scale factor to be applied to every germ such that

the germs are scaled to the maximum size that fits into the canvas (Uchihashi: section 4.3, 4.4)

and placing the germs in rows, wherein each row has a height according to the longest germ in

the particular row (Uchihashi: figure 2).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Bae reference to place the germs in a row as taught by Uchihashi, to "fill

space efficiently and represent the original video sequence well" (Uchihashi: section 4.2).

7.   **Claims 7, 9, 16, 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et

al (US 2002/0126143 A1) in view of Hirata (US 6,922,485 B2).

Regarding **claims 7, 9,** Bae discloses all elements as mentioned above in claim 1. Bae

does not teach assigning a pixel value of each point in the canvas to the same pixel value in the

support associated with the germ closest to each point; wherein if the germ closest to the point

does not have a support that includes the point, the point is assigned the pixel value of the closest

germ with a support that includes the point; wherein the point is assigned a background value if

no support includes the point.

Hirata teaches assigning a pixel value of each point in the canvas to the same pixel value

in the support associated with the germ closest to each point (see col. 8, lines 62-67; col. 9, lines

1-14); wherein the point is assigned a background value if no support includes the point (see col.

8, lines 62-67; col. 9, lines 1-14).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae reference to assign pixel value to a germ that is closest as taught by Hirata, to create an aesthetically/visually pleasing image to the user by removing white spaces between germs.

Regarding **claims 16, 18**, Bae discloses all elements as mentioned above in claim 10. Bae does not teach assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point; wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point; wherein the point is assigned a background value if no support includes the point.

Hirata teaches assigning a pixel value of each point in the canvas to the same pixel value in the support associated with the germ closest to each point (see col. 8, lines 62-67; col. 9, lines 1-14); wherein the point is assigned a background value if no support includes the point (see col. 8, lines 62-67; col. 9, lines 1-14).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae reference to assign pixel value to a germ that is closest as taught by Hirata, to create an aesthetically/visually pleasing image to the user by removing white spaces between germs.

8.   **Claims 11, 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al (US 2002/0126143 A1) in view of Li et al (US 7,035,435 B2).

Regarding **claim 11**, Bae discloses all elements as mentioned above in claim 10. Bae does not teach detecting a face in each of the plurality of images.

Li teaches detecting a face in each of the plurality of images (Li: col. 7, lines 33-51).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae reference to detect a face as taught by Li, in order to determine the importance of a frame since "a human face will be more informative than, for example, a landscape frame" (Li: col. 7, lines 33-51).

Regarding **claim 19**, Bae discloses all elements as mentioned above in claim 1. Bae does not teach detecting a face in each of the plurality of images.

Li teaches detecting a face in each of the plurality of images (Li: col. 7, lines 33-51).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Bae reference to detect a face as taught by Li, in order to determine the importance of a frame since "a human face will be more informative than, for example, a landscape frame" (Li: col. 7, lines 33-51).

9.   **Claims 21, 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al (US 2002/0126143 A1) in view of Leow et al (US 7,091,969 B2).

Regarding **claim 21**, Bae discloses all elements as mentioned above in claim 1. Bae does not disclose using a Voronoi algorithm to determine the shape of the support to be placed on the canvas.

Leow, in the same field of endeavor, teaches using a Voronoi algorithm to determine the shape of the support to be placed on the canvas (see col. 2, lines 19-50; alpha -shape and crust algorithms make use of Voronoi diagrams and Delaunay triangulation to construct triangle mesh. A Voronoi diagram for an arbitrary set of points may be formed from convex polygons created

from the perpendicular bisector of lines between nearest neighboring points. Delaunay

triangulation forms a mesh using the Voronoi diagrams).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Bae reference to utilize a Voronoi algorithm as taught by Leow, in order for

the output to be topologically correct and convergent to the original surface as the sampling

density increases for a "good sample" from a smooth surface (see col. 2, lines 19-50).

Regarding **claim 25**, Bae discloses a method for generating a highly condensed visual

summary of video regions, comprising:

determining a germ in each of a plurality of images, the germ containing a region of interest (see

fig. 5, paragraph [0059]; The synthetic text key frame is generated by summarizing important

texts in a video frame in each of the news articles to be inverted into an image; Examiner notes

within figure 5, it is noted that the physical text is considered as the germ);

defining a support in each of the video segments, wherein the support is the video segment less

the germ;

separating the germ from the video segments (see fig. 5, paragraph [0059]; The synthetic text

key frame is generated by summarizing important texts in a video frame in each of the news

articles to be inverted into an image);

laying out the germs on a canvas (see fig. 5, paragraph [0059]; the synthetic text key frame is

generated by summarizing important texts);

defining a space between the germs (see fig. 5, paragraph [0059]; the synthetic text key frame is

generated by summarizing important texts); and

filling in the space of the canvas (see fig. 5, paragraph [0059]; The synthetic text key frame is

generated by summarizing important texts in a video frame in each of the news articles to be

inverted into an image; Examiner notes that as seen in fig. 5, the germ/region of interest is

interpreted to be the text only. Therefore, the corresponding background surrounding the text is

considered to be support, since the support is defined as the video segment less the germ.

Following this logic, therefore when the summarization of the text occurs, the support along with

the germ is separated from the video segments and placed within the synthetic key frame,

whereby it fills up the space of the canvas between the germs by having more than one text

summarization present in the synthetic key frame. Inherently, if the part of the support and the

germ are transferred to the synthetic key frame then naturally, at least one pixel value of the

support relative to the closes germ is positioned corresponding to the position of that pixel value

relative to the germ) to generate a highly condensed visual summary of the plurality of video

segments (see fig. 5, paragraph [0059], synthetic key frame). Bae does not disclose computing

boundary curves between the germs using a Voronoi algorithm.

Leow, in the same field of endeavor, teaches computing boundary curves between the

germs using a Voronoi algorithm (see col. 2, lines 19-50; alpha -shape and crust algorithms make

use of Voronoi diagrams and Delaunay triangulation to construct triangle mesh. A Voronoi

diagram for an arbitrary set of points may be formed from convex polygons created from the

perpendicular bisector of lines between nearest neighboring points. Delaunay triangulation forms

a mesh using the Voronoi diagrams).

It would have been obvious at the time the invention was made to one of ordinary skill in

the art to modify the Bae reference to utilize a Voronoi algorithm to compute boundary curves as

taught by Leow, in order for the output to be topologically correct and convergent to the original

surface as the sampling density increases for a "good sample" from a smooth surface (see col. 2,

lines 19-50).

Allowable Subject Matter

10.   Claims 8, 17 are objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Regarding claims 8, 17, none of the references of record alone or in combination suggest

or fairly teach wherein if the germ closest to the point does not have a support that includes the

point, the point is assigned the pixel value of the closest germ with a support that includes the

point.

Response to Arguments

11.   Applicant's arguments with respect to claim 1 have been considered but are moot in view

of the new ground(s) of rejection. Applicant argues that certain limitations within claim 1 are

not disclosed by the Bae et al reference (see pg. 9, last paragraph – pg. 19, second paragraph).

This argument is not considered persuasive since claim 1 is rejected by a new ground(s) of

rejection under Bae et al. necessitated by applicant's amendment and therefore the applicant's

arguments are moot.

Applicant's arguments with respect to claim 10 have been considered but are moot in

view of the new ground(s) of rejection. Applicant argues that certain limitations within claim 10

are not disclosed by the Bae et al reference (see pg. 19, last paragraph – pg. 23, first paragraph).

This argument is not considered persuasive since claim 1 is rejected by a new ground(s) of

rejection under Bae et al. necessitated by applicant's amendment and therefore the applicant's

arguments are moot.

Regarding claim 12, applicant argues that the claim is allowable due to the same reasons

as stated in claim 10 (see pg. 23, second paragraph). This argument is not considered persuasive

since claim 10 stands rejected by a new ground(s) of rejection under Bae et al. necessitated by

applicant's amendment and the rejection can be seen above.

Regarding claim 2, applicant argues that the claim is allowable due to similar reasons as

stated in claim 1 (see pg. 23, last paragraph – pg. 26, third paragraph). This argument is not

considered persuasive since claim 1 stands rejected by a new ground(s) of rejection under Bae et

al. necessitated by applicant's amendment and therefore the applicant's arguments are moot.

Applicant argues that Uchihashi does not disclose determining a group within each of the

plurality of video segments having the largest 3-D volume (see pg. 26, last paragraph – pg. 27,

third paragraph). This argument is not considered persuasive since Uchihashi discloses this

limitation as shown in section 4.2, where length of segment is scored. Applicant further argues

that the 3-D volume is defined as x-y-z space as specified in the specification and the Uchihashi

does not disclose this limitation (see pg. 27, second paragraph). This argument is not considered

persuasive since the claims are read in light of the specification, and therefore the cited limitation

in not actually claimed. In response to applicant's argument that the references fail to show

certain features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., 3-D volume is defined as x-y-z space) are not recited in the rejected claim(s). Although the

claims are interpreted in light of the specification, limitations from the specification are not read

into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Examiner notes that the interpretation of the 3-D volume as being in the x-y-t space is valid and

will be utilized to interpret the scope and bounds of the cited limitation.

Regarding claim 10, applicant argues that the claim is allowable due to neither Bae nor

Uchihashi disclosing the specific limitations as cited in claim 10 (see pg. 27, last paragraph – pg.

29, first paragraph). This argument is not considered persuasive since claim 10 stands rejected

by a new ground(s) of rejection under Bae et al. necessitated by applicant's amendment and

therefore the applicant's arguments are moot.

Regarding claims 2-6, 13-15, 20, applicant argues that the claims are allowable due to the

dependency from and the same reasons as cited in claims 1 and 10, respectively (see pg. 29,

second paragraph). This argument is not considered persuasive since claims 1 and 10 stand

rejected by a new ground(s) of rejection under Bae et al. necessitated by applicant's amendment

and therefore the applicant's arguments are moot.

Regarding claim 1, applicant argues that the claim is allowable due to neither Bae nor

Hirata disclosing the specific limitations as cited in claim 1 (see pg. 29, fourth paragraph – pg.

31, third paragraph). This argument is not considered persuasive since claim 1 stands rejected by

a new ground(s) of rejection under Bae et al. necessitated by applicant's amendment and

therefore the applicant's arguments are moot.

Regarding claim 9, applicant argues that the Hirata does not disclose the cited limitation

(see pg. 31, last paragraph – pg. 32, first paragraph). This argument is not considered persuasive

since the Hirata reference discloses the limitation within figure 8, col. 8, lines 62-67, col. 9, lines

1-14, where it is determined by the threshold value to merge the color regions based on the

distribution of the distance between the color regions. If the threshold is not met, then the

process is terminated and the region holds or keeps the color, which covers the cited limitation

since a background value is not defined as a specific value. Therefore, background value is

considered any value such as the original value of the area.

Regarding claim 10, applicant argues that the claim is allowable due to neither Bae nor

Hirata disclosing the specific limitations as cited in claim 10 (see pg. 32, second paragraph – pg.

33, third paragraph). This argument is not considered persuasive since claim 10 stands rejected

by a new ground(s) of rejection under Bae et al. necessitated by applicant's amendment and

therefore the applicant's arguments are moot.

Regarding claims 7-9, 16-18, applicant argues that the claims are allowable due to the

dependency from and the same reasons as cited in claims 1 and 10, respectively (see pg. 33,

fourth paragraph). This argument is not considered persuasive since claims 1 and 10 stand

rejected by a new ground(s) of rejection under Bae et al. necessitated by applicant's amendment

and therefore the applicant's arguments are moot.

Regarding claim 1, applicant argues that the claim is allowable due to neither Bae nor Li

disclosing the specific limitations as cited in claim 1 (see pg. 34, first paragraph – pg. 36, second

paragraph). This argument is not considered persuasive since claim 1 stands rejected by a new

ground(s) of rejection under Bae et al. necessitated by applicant's amendment and therefore the

applicant's arguments are moot.

Regarding claim 10, applicant argues that the claim is allowable due to neither Bae nor Li

disclosing the specific limitations as cited in claim 10 (see pg. 36, third paragraph – pg. 37, third

paragraph). This argument is not considered persuasive since claim 10 stands rejected by a new ground(s) of rejection under Bae et al. necessitated by applicant's amendment and therefore the applicant's arguments are moot.

Regarding claims 11, 19, applicant argues that the claims are allowable due to the dependency from and the same reasons as cited in claims 1 and 10, respectively (see pg. 37, fourth paragraph). This argument is not considered persuasive since claims 1 and 10 stand rejected by a new ground(s) of rejection under Bae et al. necessitated by applicant's amendment and therefore the applicant's arguments are moot.

Regarding 21, applicant argues that the cited limitation "using a Vornoi algorithm to determine the shape of the support to be placed on the canvas" is not taught by the Lin reference (see pg. 38, first paragraph – pg. 38 last paragraph). This argument is not considered persuasive since claim 21 stands rejected by a new ground(s) of rejection under Bae in view of Leow necessitated by applicant's amendment and therefore the applicant's arguments are moot. Applicant argues that claim 21, is allowable due to the same reasons as mentioned in claim 1 (see pg. 38, second paragraph). This argument is not considered persuasive since claim 1 stands rejected by a new ground(s) of rejection under Bae and therefore the applicant's arguments are considered moot.

Conclusion

12.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PARK whose telephone number is (571)270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

<div style="text-align: right;">
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